

**NORTHERN CALIFORNIA EDUCATION AND RESEARCH CENTER FOR  
OCCUPATIONAL SAFETY AND HEALTH**

**NIOSH Training Grant T42-OH008429**

**ANNUAL REPORT  
July 1, 2013 – June 30, 2014**

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**Northern California Education and Research Center Annual Report**  
**July 1, 2013 – June 30, 2014**

**Section I:**

**ERC Summary:**

The goal of the Northern California ERC, a consortium of programs of the University of California, is to train professionals as practitioner and research leaders in occupational safety and health by offering graduate degrees, residency training, clinical experiences, and research mentorship to trainees. The aim of the ERC is to provide a broad, multidisciplinary educational experience involving student and faculty collaborations in the classroom and on research and service projects. Activities are grounded in multi-campus, interactive teaching programs that translate knowledge into information that can be used to improve worker safety and health. In addition, through the Continuing Education Program and the Outreach components of the Labor Occupational Health Program, the ERC provides continuing education courses and outreach activities to other health professionals. The Center aims to provide an educational bridge from the University to external constituencies to ensure that practicing professionals, workers, their representatives, supervisors, and other educators benefit from the University's occupational health and safety expertise. The ERC strives to integrate an occupational safety and health perspective in all of its activities, including such activities as the STEER program, a summer internship program funded by the National Institute for Environmental Health Sciences, which is designed to encourage students to consider further study in one of the ERC programs.

The Northern California ERC trains professionals in the following areas:

Industrial Hygiene (UC Berkeley) – MPH, MS, PhD degrees

Occupational Epidemiology (UC Berkeley) - MS, PhD degrees

Ergonomics (joint program at UCB/UCSF) – MS/MPH, PhD degrees

Occupational and Environmental Health Nursing (UCSF) – MS, PhD degrees

Occupational and Environmental Medicine (UCSF) – Residency Training, MPH degrees

Targeted Research Training (joint program at UCB/UCSF)

**Relevance:**

The aim of the ERC training program is to produce graduates with strong problem solving skills and the ability to synthesize diverse information in order to effectively address both typical and unusual problems that arise in the technically, institutionally, and culturally complex workplaces which characterize the current economy. Issues facing low-wage and immigrant workers are particularly important to the ERC, as are health and safety issues in emerging sectors such as green jobs.

**Key Personnel:**

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**ERC web link:** <http://coeh.berkeley.edu/>

## **Section II:**

All of the NCERC programs have been productive over the reporting period, but we will highlight the following three: Occupational and Environmental Health Nursing, Occupational and Environmental Epidemiology, and Continuing Education.

### **Program highlights of high impact:**

Occupational and Environmental Health Nursing (OEHN) Program: *Director: Oisaeng Hong, RN, PhD*

The Occupational and Environmental Health Nursing (OEHN) program at UCSF is led by Dr. Oi Saeng Hong. One of Dr. Hong's major research foci is prevention of noise-induced hearing loss and tinnitus. Because her work is directly applicable to various work sectors, she is currently pursuing noise-induced hearing loss research with firefighters, Latino construction workers, and emergency responders, as well as a potential consequence of dental fillings with mercury-containing amalgam. She recently obtained funding from the Department of Defense to conduct a multimodal imaging study to detect structural abnormalities that may be contributing to tinnitus. A second OEHN faculty member, Dr. Soo-Jeong Lee, was awarded a NIOSH R03 grant to assess the impact of California's new Safe Patient Handling Law. Her work to evaluate regulatory efforts to reduce nurses' injuries through safe patient handling has direct impact on practical efforts to improve working conditions of health care personnel. Dr.

Lee recently published a paper on chemical exposures and acute symptoms among hospital cleaning workers that also showed how safe work practices can improve health among these low-wage, immigrant workers. Both Drs. Hong and Lee have several PhD nursing students working on their research projects.

Occupational Epidemiology Program: *Director: Ellen Eisen, PhD*

The Occupational and Environmental Epidemiology (OEE) program at UC Berkeley is led by Dr. Ellen Eisen and continues to thrive. The faculty in the program have been successful in obtaining extramural research funds that provide projects for the students in the program. Dr. Eisen is funded by NIOSH to study mortality from both cardiovascular disease and chronic obstructive pulmonary disease among a cohort of autoworkers. Dr. Mark Cullen (Stanford) is funded by NIOSH and the National Institute on Aging to examine the incidence of ischemic heart disease and other chronic diseases in relation to exposure to PM<sub>2.5</sub> in aluminum manufacturing; Dr. Eisen and Dr. Katharine Hammond (the Director of the NCERC Industrial Hygiene Program) are co-investigators. Dr. Hammond has funding from the NIEHS to study neurologic and reproductive health effects of solvent exposure in auto mechanics, and Drs. Hammond and John Balmes have NIEHS/EPA funding to study the health effects of air pollution in children living in the San Joaquin Valley. Four students were funded through the OEE program during the reporting period. One of these students, Stella Beckman, received an award for best abstract submitted by a new investigator at the 24th International Epidemiology in Occupational Health Conference held in Chicago, Illinois, on June 26, 2014. Drs. Eisen, Hammond, and Balmes are co-authors of the abstract and presentation.

Continuing Education (CE) Program: *Director: Patty Quinlan, MPH, CIH*

The Continuing Education (CE) program underwent a change in leadership during the reporting period with the retirement of long-time Director, Barbara Plog. Patricia Quinlan, Deputy Director of the NCERC, now leads the CE program. The transition in leadership went smoothly, in large part because Ms. Plog and Ms. Quinlan have collaborated for many years to edit the successful *Fundamentals of Industrial Hygiene* textbook. While the CE program put on multiple courses during the reporting period, the highlight was the “Lead Standards Studied for Health Impacts” symposium in November 2013 that was attended by approximately 335 participants from varying time zones in 22 states, the District of Columbia, Canada, and Germany. The audience took part in person or by live webcast. More than 60 registered to watch as groups, multiplying outreach. Since the one-day symposium, over 2,200 viewers have visited the webinar series hosted by the CE program. The symposium was led by Ms. Plog, with assistance from the California Department of Public Health (CDPH). Dr. John Howard, Director of NIOSH moderated the highly successful event.